WILLIAMSBURG BRIDGE
Kentucky Route 296 Bridge
Spanning the Cumberland River
Williamsburg
Whitley County
Kentucky

HAER NO.KY-16

PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
NATIONAL PARK SERVICE
Department of the Interior
Southeast Region
Atlanta,Georgia 30303

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Williamsburg Bridge
(Kentucky Route 296 Bridge)

HAER No. KY-16

Location:	Spans the Cumberland River Williamsburg, Whitley County, Kentucky UTM: 16.753780.4070050 Quad: Williamsburg
Date of Construction:	1890
Builder/Designer:	Unknown
Present Owner:	Kentucky Transportation Cabinet State Office Building Frankfort, Kentucky 40601
Present Use:	Vehicular bridge
Significance:	One of two bridges in Kentucky that appears to be transitional designs between Camelback truss and the Pennsylvania petit truss.
Historian:	Gregory D. Rawlings
Edited and Transmitted by:	Jean P. Yearby, HAER, 1987

The Williamsburg Bridge over the Cumberland River is eligible for the National Register of Historic Places as a structure of State and local importance. It possesses integrity of location, design, setting, materials, and workmanship and embodies the distinctive characteristics of a type, period, and method of construction. The metal truss bridge, although in poor structural condition, is a good example of the evolution of civil engineering technology and bridge construction in Kentucky. The current Structural Inventory and Appraisal (SIA) rating on the bridge is 4.0 out of a possible 100 points. This inspection report, filed in September 1983, noted a 60 percent loss of section in lower chord pin connections and considerable rust throughout the floor system and superstructure.

The bridge is located immediately southwest of the Kentucky Route 296 and U. S. Route 25W intersection and provided for traffic to and from Williamsburg from the north until approximately 1976. At this time, a new structure was completed approximately 400 feet upstream that provided for a one-way system, utilizing the old bridge for one-way traffic into the city of Williamsburg. The roadway width of the old existing structure is 16.76 feet and did provide for two-way traffic until the end span adjacent to downtown Williamsburg collapsed in 1974 after being damaged. The bridge was opened for one-lane traffic after the installation of the 830-foot Baily Span that is presently being used today. Williamsburg is the county seat of Whitley County, which borders Tennessee in the southeastern portion of the State. Kentucky State Route 296 is a secondary state route.

The design of the Williamsburg Bridge appears to be a transitional adaptation composed of elements of both the Camelback truss and the Pennsylvania truss. The top chord has exactly five slopes, identifying it as a Camelback; however, it also has sub-struts, features utilized on the Pennsylvania (Petit) truss design which has a polygonal top chord of more than five slopes. This structural configuration identifies it as a Camelback/Pennsylvania truss. This very tall example is comprised of a 300.9 foot through truss, two 42-foot "I" beam sections, and an 83-foot Baily Span. A sidewalk was provided on the original structure, but was not a feature on the replacement Baily Span. The structure has 16 panels and has a total width of 23 feet.

The 'Survey of Truss, Suspension, and Arch Bridges in Kentucky," completed in January 1982, located three examples of the Camelback/Pennsylvania truss design. Two examples were built by the King Bridge Company of Cleveland, Ohio. The Williamsburg Bridge may have also been built by this innovative company, but research has failed to identify the designer and builder. The builder/date plate has been removed, however a construction date of circa 1890 can be made, based on these similar examples. The bridge type was named for their extensive use by the Pennsylvania Railroad. The Pennsylvania truss, first introduced in 1875, has sub-struts and/or sub-ties with an arched top chord. The addition of sub-struts and sub-ties strengthened the truss as a response to the increasing size, weight and speed of locomotives in the latter part of the 19th century.

The floor system of the Williamsburg Bridge has plate girder floor beams, rolled I-beam stringers, and an asphalt deck. Rough cut stone piers support the bridge above the river and concrete abutments anchor the structure to the banks.

The rigid compression members of the Williamsburg Bridge are as follows: end posts and top chords are three plates (two with angles) and lacing bars, intermediate posts are paired angles and lacing bars. The tension members are less rigid bars with eyes for pin-connected panel points and are referred to as eyebars. The main tension members on the bridge are: bottom chords are two die-forged eyebars (with stirrup rods), hip-verticals are two loop-welded eyebars pinned above the bottom chord, diagonals are two die-forged eyebars (some with stirrup rods) with turnbuckles, counters are single or double loop-welded eyebars with sleevenuts.